

CLAIMS:

1. An X-ray imaging method comprising
- forming a set of 2-dimensional X-ray images (18) of an object to be examined, for example the coronary vascular system of a patient, by means of a scan rotation of an X-ray source (12) around said object over a run length (20), said X-ray images (3) being
5 acquired at predetermined characteristic time moments in cardiac cycle (ED) of the object and
- reconstruction of a 3-dimensional volume thereof,
characterized in that the run length (20) of the scan rotation over substantially 180° is at least 15 s and preferably about 20 s.
- 10 2. An X-ray imaging method according to claim 1, characterized in that, before reconstruction, images obtained at predetermined corresponding characteristic time moments in successive cardiac cycles are correlated with each other.
- 15 3. An X-ray imaging method according to claim 2, characterized in that the characteristic time moments substantially correspond to R-peaks of the cardiac cycle.
4. An X-ray imaging method according to claim 1, characterized in that, before a reconstruction, images obtained at predetermined neighbouring time moments in a
20 predetermined characteristic time interval of a cardiac cycle are correlated with each other.
5. An X-ray imaging method according to any one of the preceding claims, characterized in that the reconstruction is combined with modelling techniques.
- 25 6. 3D-rotational X-ray apparatus (1) for applying the method according to claim 1, comprising a circular C-arm (10) with a drive, the C-arm accommodating an X-ray source (12) and an X-ray image pick-up device (13) and being rotatable over an angle of substantially 180° around its center by means of said drive, triggering means for triggering the X-ray images at predetermined characteristic time moments in the cardiac cycle of the

object, and means for processing the images obtained to reconstruct a 3-dimensional volume of the object, characterized in that the drive of the C-arm (10) is adjusted to a run length of a scan rotation over substantially 180° which is at least 15 s and preferably about 20 s.

